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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,547	12/14/2000	Seok Moon Kang	HI-024	6563
34610	7590	03/23/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			LE, NHAN T	
			ART UNIT	PAPER NUMBER
			2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/735,547	Applicant(s) KANG, SEOK MOON	
	Examiner Nhan T. Le	Art Unit 2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 27-31 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1-7 is/are allowed.
6) ☒ Claim(s) 8, 9, 14 and 27-31 is/are rejected.
7) ☒ Claim(s) 10-13, 15-23 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,978,659) in view of Garner et al (US 5,890,056).

As to claim 8, Kim teaches teaches a base station system, comprising: a transmitter configured to modulate and transmit a first signal, the first signal passing (see fig. 1, RF out, col. 2, lines 29-57); a receiver configured to receive and demodulate a second signal (see fig. 2, reception data, col. 2, lines 29-57); a radio frequency (RF) characteristic analyzer (see fig. 1, numbers 8, 14, col. 2, lines 29-57) coupled to monitor and analyze an output signal of each of the transmitter and receiver and determine an extent of signal degradation, and to provide a monitoring signal based on the level of degradation. Kim fails to teach wherein the first signal passing through a transmission frequency band filter, the second signal being convert to frequency band by receiving frequency converter, the RF characteristic analyzer is coupled to the frequency band filter and the receiving frequency converter and includes transmission and reception band rejection filters to respectively filter out unwanted signals outputs from the frequency band filter and the receiving frequency converter. Garner teaches wherein the

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first signal passing through a transmission frequency band filter (fig. 3, number 217, col. 9, lines 66-67, col.10, lines 1-15); the second signal being convert to frequency band (see col. 11, lines 62-67, col. 12, lines 1-6), includes transmission and reception band rejection filters to respectively filter out unwanted signals outputs from the frequency band filter and the receiving frequency band (see col. 12, lines 14-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Garner into the system of Kim in order to facilitate the call signal transmission and reception as well as channel monitoring in both uplink and down link frequency spectra (as suggested by Garner col. 12, lines 30-31).

2. Claims 9, 27-29, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,978,659) in view of Garner et al (US 5,890,056) further in view of Bradley (US 6,157,183).

As to claim 9, the combination of Kim and Garner teaches the RF characteristic analyzer comprises: a first analyzing circuit coupled to monitor and analyze an output signal of the transmitter in real time (see Kim fig. 1, number 8, col. 2, lines 29-57); a second analyzing circuit coupled to monitor and analyze an output signal of the receiver in real time (see Kim fig. 1, number 14, col. 2, lines 29-57). The combination of Kim and Garner fails to teach an alarm circuit coupled to receive analyzed data from the first and second analyzing circuits, and generating the monitoring signal. Bradley teaches an alarm circuit coupled to receive analyzed data from the first and second analyzing circuits, and generating the monitoring signal (see col. 3, lines 46-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was

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made to provide the teaching of Bradley into the system of Kim and Garner in order to monitor the data frequency.

As to claim 27, Kim teaches a radio frequency (RF) characteristic analyzer (see fig. 1, numbers 8, 14, col. 2, lines 29-57) coupled to monitor and analyze an output signal of each of the transmitter and receiver and determine an extent of signal degradation, and to provide a monitoring signal based on the level of degradation. Kim fails to teach wherein the first signal passing through a transmission frequency band filter, the second signal being convert to frequency band by receiving frequency converter, the RF characteristic analyzer is coupled to the frequency band filter and the receiving frequency converter and includes transmission and reception band rejection filters to respectively filter out unwanted signals outputs from the frequency band filter and the receiving frequency converter. Garner teaches wherein the first signal passing through a transmission frequency band filter (fig. 3, number 217, col. 9, lines 66-67, col.10, lines 1-15); the second signal being convert to frequency band (see col. 11, lines 62-67, col. 12, lines 1-6), includes transmission and reception band rejection filters to respectively filter out unwanted signals outputs from the frequency band filter and the receiving frequency band (see col. 12, lines 14-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Garner into the system of Kim in order to facilitate the call signal transmission and reception as well as channel monitoring in both uplink and down link frequency spectra (as suggested by Garner col. 12, lines 30-31). The combination of Kim and Garner fails to teach an alarm circuit configure to generate at least one alarm if

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the RF characteristic analyzer determine the call quality is going to deteriorate. Bradley teaches a detector circuit coupled to receive analyzed data from the first and second analyzing circuits, and generating the monitoring signal (see col. 3, lines 46-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Bradley into the system of Kim and Garner in order to monitor the data frequency.

As to claim 28, the combination of Kim, Garner and Bradley teaches wherein the RF characteristic analyzer determines the call quality is going to deteriorate by analyzing RF characteristics of the transmission frequency band filter and the receiving frequency converter (see Bradley col. 3, lines 29-53).

As to claim 29, the combination of Kim, Garner and Bradley teaches wherein the RF characteristic analyzer analyzes the unwanted signal that includes an out of band transmitted by the base station (see Bradley col. 7, lines 14-35).

As to claim 31, the claim is rejected as to claim 27 above.

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,978,659) in view of Bradley (US 6,157,183).

As to claim 14, Kim teaches a RF characteristic analyzer for a communications system, comprising: an input/output module, coupled to the communications system (see fig. 3, number 6, Rf out, reception data, col. 1, lines 29-57); a first analyzing circuit (see fig. 1, number 8, col. 2, lines 29-57) coupled to receive and analyze a transmission signal of the communications system through the input/output module; a second analyzing circuit (see fig. 1, number 14, col. 2, lines 29-57) coupled to receive and

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analyze a reception signal of the communications system through the input/output module. Kim fails to teach an alarm circuit coupled to receive analyzed data from the first and second analyzing circuits, and configured to provide at least one alarm message according to the analyzed data. Bradley teaches an alarm circuit coupled to receive analyzed data from the first and second analyzing circuits, and configured to provide at least one alarm message according to the analyzed data (see col. 3, lines 46-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Bradley into the system of Kim in order to monitor the data frequency.

4. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 5,978,659) in view of Garner et al (US 5,890,056), Bradley (US 6,157,183) further in view of Katsuyama et al (US 6,112,070).

As to claim 30, the combination of Kim, Garner and Bradley fails to wherein the unwanted wave signals have frequencies of ± 1.25 MHZ, ± 1.98 MHZ, ± 2.25 MHZ and greater than ± 2.25 MHZ when the band frequency is 1.23 MHZ. Katsuyama teaches the band pass filter is 1.23 Mhz (see col. 7, lines 14-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Katsuyama into the system of Kim, Garner and Bradley in order to filter the undesired signals within a frequency ranges.

Allowable Subject Matter

Claims 15-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 15-19, the applied reference fails to teach wherein the first analyzing circuit comprises: an analog-to-digital (A/D) converter coupled to receive the transmission signal and convert it into a digital output signal; a differentiator coupled to receive the digital output signal of the A/D converter and generate a differentiated output signal; an integrator coupled to receive the digital output signal of the A/D converter and generate an integrated output signal as cited in the claim.

Response to Arguments

Applicant's arguments with respect to claims 1-23, 27-31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shimizu et al (US 4,989,204) teaches high throughput communication method and system for a digital mobile station when crossing a zone boundary during a session.

Noe (US 6,842,614) teaches network analyzer for measuring the antenna return loss in a live cellular network.

Dominal et al (US 6,529,204) teaches system and method for amplifying a cellular radio signal.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Le whose telephone number is 571-272-7892.


The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nhan Le


3-19-2006

NGUYENT.VO
PRIMARY EXAMINER